

Development of animal welfare guidelines for production systems (terrestrial animals)

Discussion paper developed by the OIE Animal Welfare Working Group, 2006

Background

The OIE International Committee in May 2005 endorsed the proposals of the Animal Welfare Working Group for priorities for 2005/2006. Among those priorities was the development of animal welfare guidelines for terrestrial animal production systems.

The development of global OIE animal welfare guidelines for production systems will be challenging for a number of reasons. Worldwide, animals are raised under extremely diverse conditions ranging from intensive systems with animals kept permanently indoors, to extensive systems with little or no housing. These different systems involve very different animal welfare challenges. There are also large differences from country to country in the level of priority accorded to the welfare of food animals.

Nonetheless, because of the close link between animal welfare and animal health, guidelines designed to improve animal welfare will often lead to better animal health, productivity and food safety. Especially in cases where these relationships can be clearly demonstrated, animal welfare guidelines may be broadly acceptable to member countries.

This discussion paper sets out some of the key issues that need to be considered in developing animal welfare guidelines for production systems, and suggests next steps in this area.

Animal-based and resource-based criteria

Animal welfare guidelines may include (1) animal-based criteria and (2) resource-based criteria of animal welfare. Resource-based criteria (also called design criteria or input criteria) indicate the resources that should be provided. These often specify space allowances and dimensions, ambient temperature range, humidity, condition of the litter, air quality, availability of feed and water, frequency of inspection, and biosecurity and sanitation measures. Animal-based criteria (also called performance criteria or output criteria) are described/specified in terms of the animals' state. They often include such elements as survival rate, incidence of disease and injury, body condition scoring, the ability of animals to behave in certain ways, and the reaction of animals to their handlers.

Resource-based criteria are widely used in animal welfare assurance programs because they are often easier to evaluate and score than animal-based criteria. However, they have important limitations:

- Resource-based criteria are generally derived from research carried out with specific species/breeds and production systems, and they may not be applicable to other breeds

and other production systems. For example, a space allowance that minimizes crowding-related problems in light hybrid hens in battery cages may not apply to other breeds or to other housing systems.

- The welfare of animals is strongly influenced by the skill and attitude of animal handlers, and it is difficult to develop and implement resource-based criteria to describe these elements.
- Resource-based criteria are often created in response to well researched problems such as over-crowding and air quality, and they may not apply to new or emerging problems such as new diseases or genetic modifications of the animals.

Perhaps because of these limitations, research shows that animal production units that conform to the same resource-based criteria may still have widely varying animal welfare outcomes.

Animal-based criteria are not as widely used in existing animal welfare standards but they should, in principle, be applicable to any production system. In fact animal based criteria may provide a better measure of the animal welfare outcomes because they reflect the influence of variables (e.g. experience and attitude of handlers, presence of emerging diseases) that may be missed by resource-based criteria. However, many animal welfare concerns are difficult to address using animal-based criteria. Examples include the capacity of the ventilation system to prevent extreme temperatures, the use of pain mitigation for surgical procedures, and the implementation of appropriate biosecurity measures.

A reasonable approach, therefore, would be for the OIE to incorporate animal-based criteria in its guidelines where feasible and to supplement these with resource-based criteria where there is a good scientific basis for doing so. Thus, for example, animal welfare guidelines for chickens might specify certain levels of survival and freedom from disease and injury (animal based criteria) and would also recommend requirements for ambient temperature, humidity, air quality and litter quality (resource based criteria) for birds that are kept indoors.

Clarifying the objectives of animal welfare guidelines

Animal welfare guidelines are generally designed to achieve one or more of three objectives:

1. to protect the basic health and normal functioning of animals, for example by preventing and alleviating disease, injury, malnutrition and similar harm;
2. to protect the psychological well-being of animals, for example by preventing and alleviating pain, fear, distress and discomfort;
3. to provide living conditions that are considered to be ‘natural’ for the species, for example by providing a social and physical environment where animals can perform key elements of their natural behaviour.

The three objectives overlap. For example, preventing injury is important for psychological well-being, and preventing pain and fear can be important for normal functioning. However, the overlap is not perfect. For example, environments that limit the spread of disease do not necessarily allow natural behaviour and vice versa.

The three objectives are based on somewhat different bodies of scientific research. The research relevant to objective 1 includes studies of survival rate, incidence of disease and injury, body condition scoring, and productivity measures. The research relevant to objective 2 includes studies of pain, fear and distress in animals, studies of ways to alleviate such states, and studies that determine the animals' own preferences and aversions. Research relevant to objective 3 includes studies of the normal (and abnormal) behaviour of animals, how these are influenced by the social and physical environment, and the strength of the animals' motivation to carry out elements of their natural behaviour.

In the past, confusion has sometimes occurred because different standards, which are all claimed to address animal welfare, have involved very different requirements. Often such differences arise because the different standards address different objectives and rely on different bodies of research. In order to avoid confusion, it is important that recommendations be clear as to the welfare objectives they are intended to address.

Standards based on objective 1, because they reinforce basic health and functioning of animals, tend to be the most aligned with the traditional objectives of animal producers and veterinarians. The cost/benefit ratio is often favourable because implementation often leads to measurable improvements in productivity (e.g. improved survival or reduced mortality due to stress and disease). Hence, these standards are likely to be the most acceptable to animal producers and in cultures where concern for the welfare of animals is relatively low. However, in cultures where the public is actively interested in and concerned about animal welfare, standards based on objective 1 are likely to be viewed as minimum standards that promote productivity rather than animal welfare per se.

Standards based on objective 2 (alleviating pain and distress, etc.) vary in their ease of implementation and their economic implications. Some (such as handling animals in ways that do not cause distress) should be relatively easy to implement, involve little or no cost, and may produce measurable economic benefit. Others (such as requiring anaesthesia for minor surgery) may be difficult and costly to implement. The level of acceptance by producers will likely vary accordingly. In countries which accord a high priority to animals welfare, standards based on objective 2 tend to be strongly supported by the concerned public who generally see the alleviation of pain and distress as a key element of animal welfare.

Standards based on objective 3 (providing more 'natural' living conditions) can have widely varying implications. Some requirements, such as providing more natural social grouping of animals, can be achieved in confinement production systems with only small cost implications. Others may require substantial redesign of animal environments and incur higher land and labour costs. Such standards may, however, allow producers using alternative production systems to market products to consumers who support such standards.

In proposing OIE guidelines on animal production systems, one approach would be to focus principally on objective 1 because of the clear linkage with animal health and traditional veterinary interests, and to propose the adoption of guidelines based on objectives 2 and 3 where this is feasible and appropriate. If this approach is used, however, it should be made clear that the guidelines are intended as basic guidelines designed mainly to promote the health and functioning of animals. In cultures that place a high priority on animal welfare, the development and implementation of guidelines that more closely address animal welfare objectives 2 and 3 would be appropriate to meet societal expectations.

Clarifying the underlying science

In the past, the development of animal welfare guidelines for production systems has sometimes been hampered by a lack of clarity over the scientific literature. In some cases organizations have attempted to create guidelines without a clear review or understanding of the science. In other cases, scientific reviews are available but these lead to conflicting conclusions. Guidelines that lack a clear and transparent link to science are often criticized as reflecting the subjective views or self-interest of those (animal producers, regulators or animal welfare organizations) that produce them.

In general, then, a good first step in developing animal welfare guidelines for a given production system is to ensure that a competent review of the relevant science is in place and widely accepted. If there is no such review, or if there are significant conflicts among existing reviews, then a new review may need to be created before beginning to develop a guideline.

Recommended next steps

Given the number of strategic decisions involved in the development of guidelines for terrestrial animal production systems, the Working Group on Animal Welfare recommends that the OIE proceed as follows.

Appoint an *ad hoc* Group to consider the issues presented in this paper and prepare a Guidance Document on the development of animal welfare guidelines for terrestrial animal production systems. The *ad hoc* Group should, at a minimum, consider and report on the following:

- the various objectives of animal welfare guidelines, how these relate to animal health, and the role that the objectives should play in OIE guidelines;
- the advantages and disadvantages of animal-based versus design-based criteria, with examples and recommendations on how these different criteria should be addressed in developing OIE guidelines;
- the role of science in animal welfare guidelines, with recommendations on how the OIE should proceed to ensure that guidelines are clearly and transparently based on relevant science;
- a proposed strategy, including whether to approach the development of guidelines based on species (e.g. chickens) or production systems (e.g. caged layers);

- recommendations on the composition of expert groups including the appropriate scientific expertise, regulatory experience and regional and cultural representation;
- priorities for development of guidelines (species, production systems).

This Guidance Document should be submitted to the Animal Welfare Working Group and, if endorsed, submitted to the OIE Code Commission and possible distribution to the OIE Delegates.

With the Guidance Document in place and endorsed by the International Committee, the OIE could proceed by appointing one or more *ad hoc* Groups to work on particular animal species or production systems. Such groups may begin with the creation of a comprehensive review of the literature where this is needed.
